

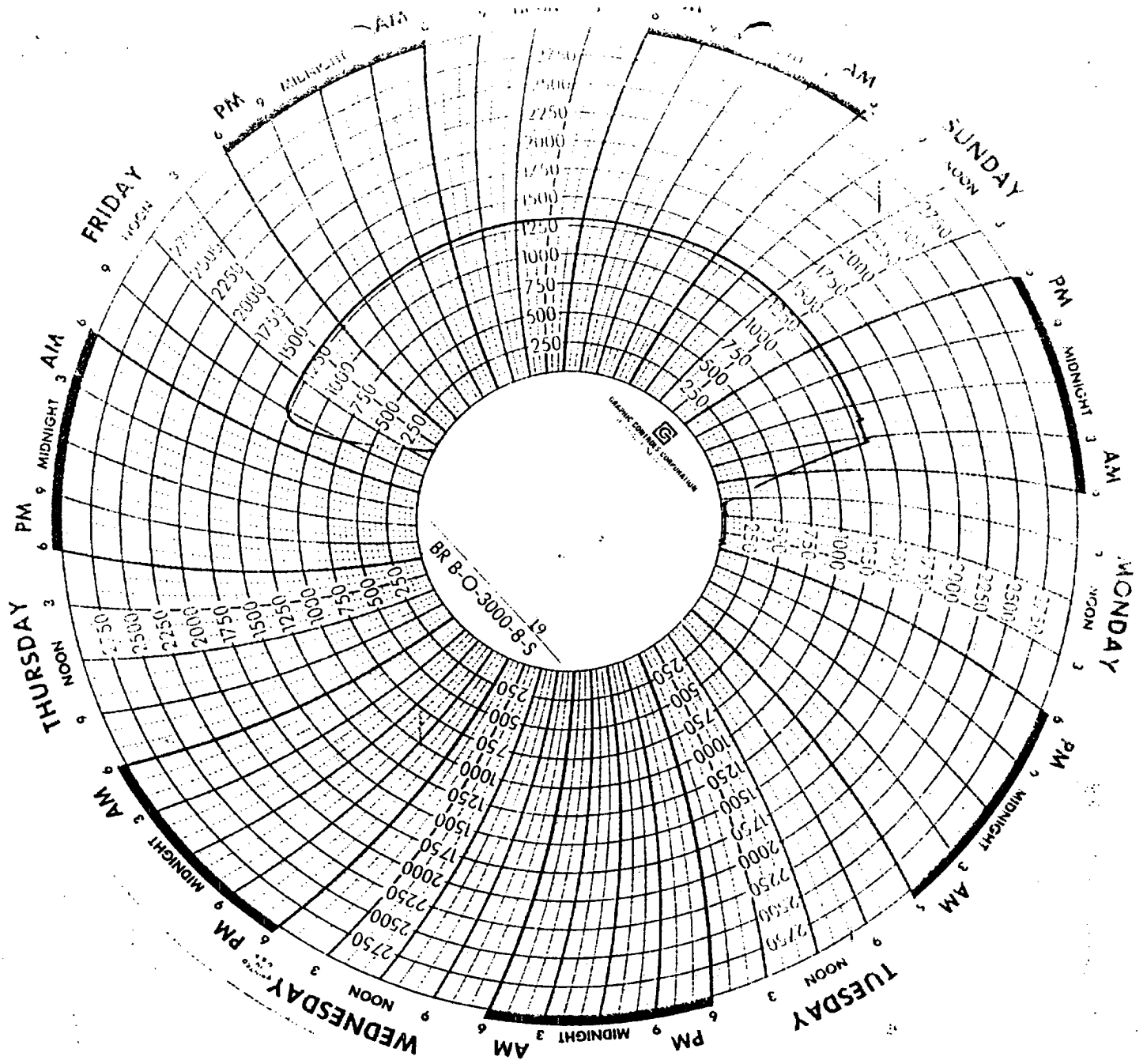
OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2008
SANTA FE, NEW MEXICO 87501Form C-122
Revised 10-1-78

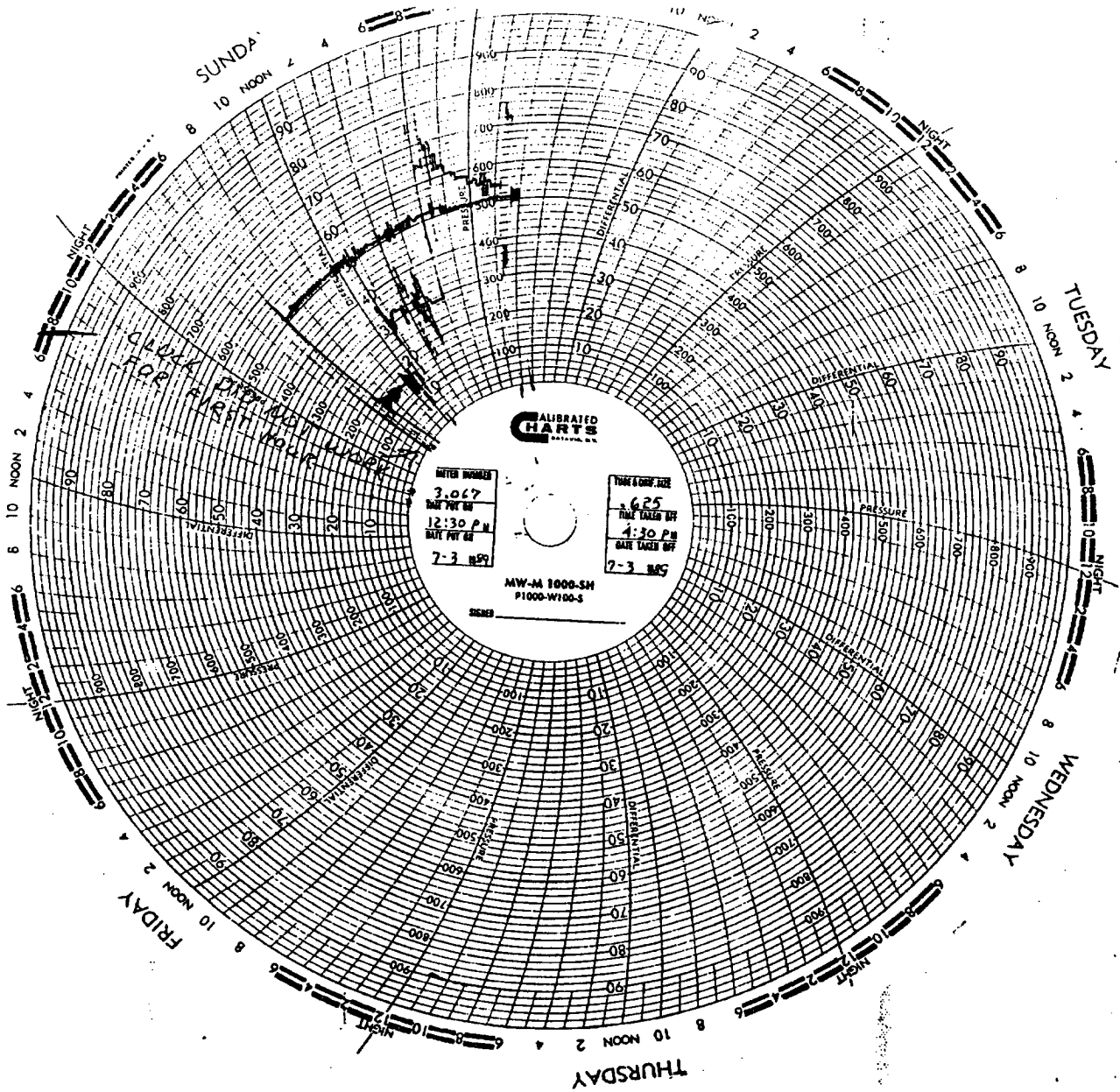
AUG 29 '89

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 07 03 89		OFFICE ARTESIA		Spud Date: 4/20/89	
Company The Petroleum Corp. of Delaware				Connection AIR			
Pool Burton Flat, East				Formation STRAWN		Unit 1	
Completion Date 7/31/89		Total Depth 11250		Plug Back TD 10219		Elevation 11570	
Ceq. Size 5.500		Wt. 20.0		Set At 4.778		Perforations: From 10306 To 10310	
Thq. Size 2.375		Wt. 4.7		Set At 1.995		Perforations: From To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE GAS				Packer Set At 10,230'		Form or Lease Name SUPERIOR FEDERAL	
Producing Thru TUBING		Reservoir Temp. °F 180 @ 10308		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2	
L 10308		H 10308		G _g .733		County EDDY	
% CO ₂ .31		% N ₂ 1.49		% H ₂ S 0		Prover 0	
Meter Run 3.1		Tops FLANGE		State NM			
FLOW DATA				TUBING DATA		BHP DATA	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Duration of Flow
1.	3.07X.625		500	6.0	89	1889	180
2.	3.07X.625		500	15.0	90	1847	180
3.	3.07X.625		500	29.0	92	1802	180
4.	3.07X.625		500	54.0	94	1767	180
5.						1652	180
RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _L	Gravity Factor F _g	Super Compress. Factor F _{pv}	Rate of Flow Q, Mcfd
1.	1.85	55.49	513.2	.9732	1.1680	1.0549	123
2.	1.85	87.74	513.2	.9732	1.1680	1.0545	194
3.	1.85	122.00	513.2	.9706	1.1680	1.0538	270
4.	1.85	166.47	513.2	.9688	1.1680	1.0530	367
5.							
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 0 Mcf/bbl.		
1.	.77	549	1.39	.899	A.P.I. Gravity of Liquid Hydrocarbons 0 Deg.		
2.	.77	550	1.39	.899	Specific Gravity Separator Gas .733 XXXXXXXXX		
3.	.77	552	1.40	.901	Specific Gravity Flowing Fluid XXXXX		
4.	.77	554	1.40	.902	Critical Pressure P.S.I.A. .733 P.S.I.A.		
5.					Critical Temperature 665. R 665 R		
P _c 1381.6 P _c ² 1909					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.5152$		
NO.	P _r ²	P _w	P _w ²	P _c ² - P _w ²	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.6447$		
1	3460	1353	1831	78	Post ID-2		
2	3296	1323	1749	160	9-29-89		
3	3169	1298	1685	224	comp & BK		
4	2772	1219	1486	423	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 971$		
5							
Absolute Open Flow 971 Mcfd @ 15.025				Angle of Slope θ 57.2		Slope, n 645	
Remarks: CHOKE SIZE: 1ST RATE 4/64 2ND RATE 6/64 3RD RATE 7/64 4TH RATE 8.5/64							
Approved By Division		Conducted By BENNETT CATHEY		Calculated By MONTY RANDOLPH		Checked By MATT LEE	



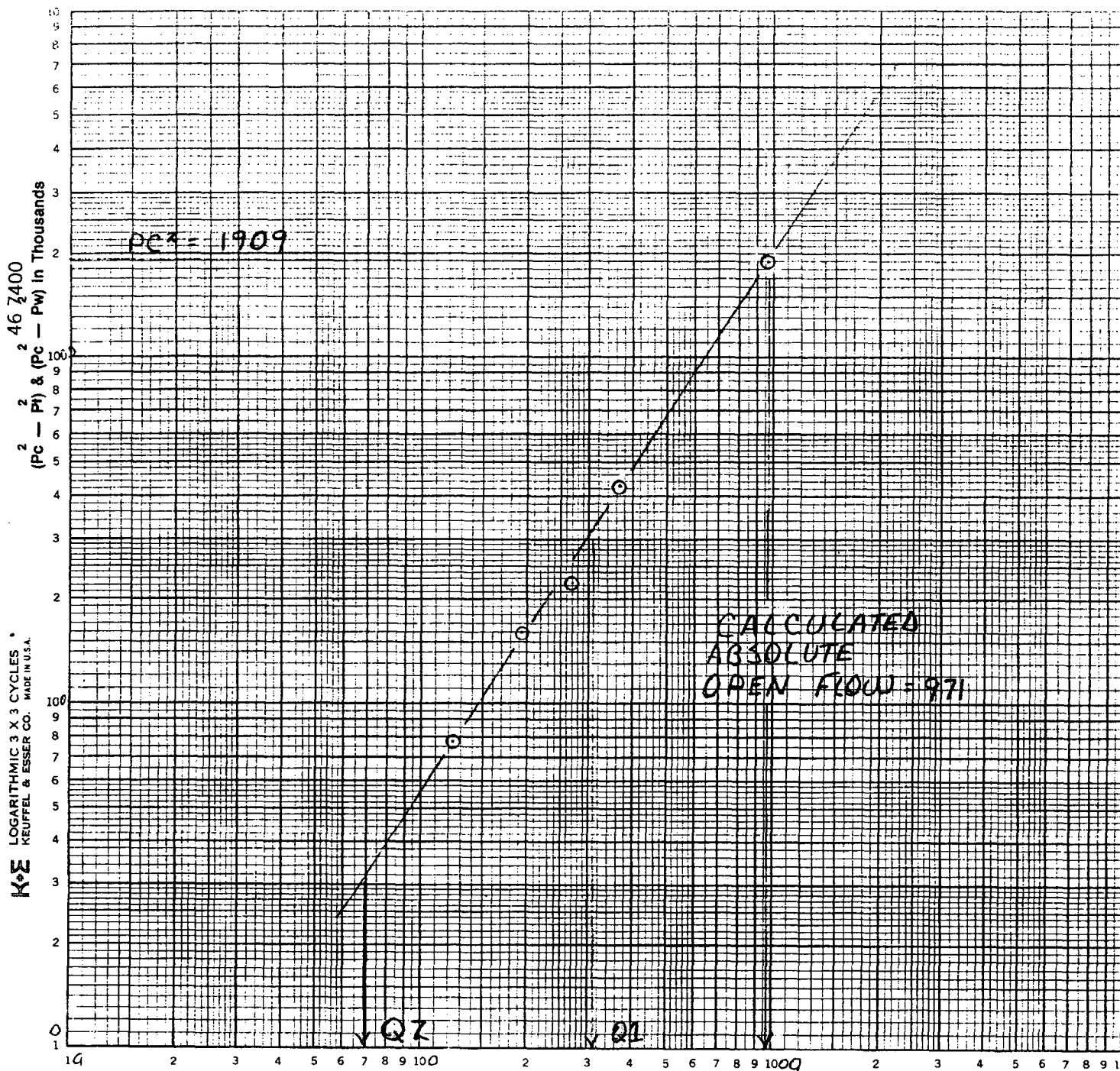
SATURDAY



THURSDAY

BACK PRESSURE CURVE

Operator PRESL Lease 5012 FEL Well No. #5
 County FDG Field Location
 Date of Test 11/13/54 Slope "n" .645 Angle of Slope 57.2
 Calc. Abs. Potential 971 MCF/D



$$\Delta P_1^2 \quad P_c^2 - P_w^2 = 320$$

$$\Delta P_2^2 \quad P_c^2 - P_w^2 = 32$$

$$Q_1 = 309$$

$$Q_2 = 70$$

Q, Mcfd

$$\text{LOG } Q_1 = 2.490$$

$$\text{LOG } Q_2 = 1.845$$

$$n = .645$$

VI-9

FIELD DATA SHEET

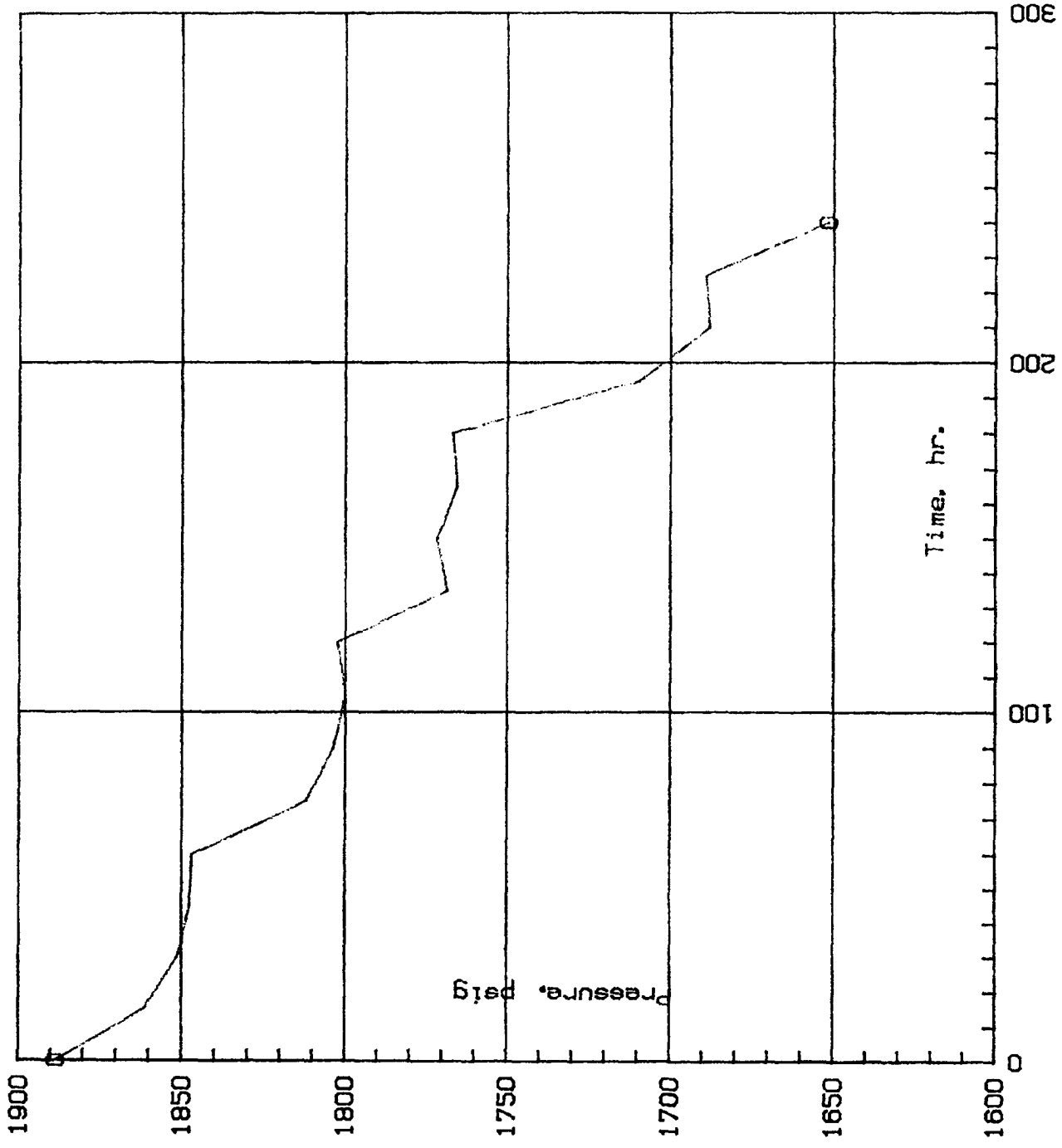
Type Test: ☒ Initial ☐ Annual 4 PT. ☐ Special	Test Date: 7-3-89	Lease No. or Serial No.:
Company: Presidio	Connection: A.C.	Superior Federal
Field:	Reservoir: STRAUH GAS	Location:
Completion Date: 7/7/89	Total Depth: 11,570	Plug Back TD: 11,250
Elevation:	Perforations: From 10,306 To 10,310	Form or Lease Name: SUPERIOR FEDERAL
Csg. Size: 5 1/2" ID	Set At: 11,569'	Well No.: 5
Tub. Size: 2.375" ID	Set At: 10,219	Sec. 5 Twp - Blk R20S R24E
Type Completion (Describe):	Perforations: From OPEN END To	County or Parish: EDDY
Producing Thru:	Reservoir Temp. F: 60°	Mean Ground Temp. F: 13.2°
State: New Mexico	Prover: 3.0	Motor Run: 3.0

DATE	ELAP. TIME	WELLHEAD WORKING PRESSURE			METER OR PROVER				REMARKS		
Time of Reading	Mrs.	Thg. Psig	Csg. Psig	Temp. F	Pressure Psig	Diff.	Temp. F	Orifice	CHOKE	(Include liquid production data: Type - API Gravity - Amount)	MCF
12:30	0	1403	PKR	61°	500	-	113°	.625	CLOSED		-
12:45	15	1330	"	60°	500	6"	115°	.625	4/64		114
1:00	30	1316	"	60°	500	6"	117°	.625	4/64		113
1:15	45	1304	"	60°	500	6"	118°	.625	4/64		113
1:30	1:00	1297	"	61°	500	6"	119°	.625	4/64		113
1:45	1:15	1278	PKR	61°	500	16"	116°	.625	6/64		186
2:00	1:30	1249	"	60°	500	16"	115°	.625	6/64		186
2:15	1:45	1237	"	60°	500	15"	114°	.625	6/64		180
2:30	2:00	1228	"	61°	500	15"	90°	.625	6/64		190
2:45	2:15	1196	PKR	60°	500	33"	108°	.625	7/64		269
3:00	2:30	1174	"	60°	500	32"	106°	.625	7/64		265
3:15	2:45	1172	"	60°	500	31"	104°	.625	7/64		261
3:30	3:00	1156	"	61°	510	29"	92°	.625	7/64		255
3:45	3:15	1107	PKR	60°	500	63"	96°	.625	8.5/64	MADE 1/4 BBL.	375
4:00	3:30	1073	"	61°	500	58"	96°	.625	8.5/64		360
4:15	3:45	1063	"	61°	500	58"	95°	.625	8.5/64	OF WATER	360
4:30	4:00	1054	"	61°	500	54"	94°	.625	8.5/64	DURING TEST	348

PAGE 1 OF DATA BY

LINEAR PLOT

PRESIDIO
 Field :
 Well # 5
 Lease : SUPERIOR FED.
 County : EDDY
 State : NM
 Date of Run : 7/ 3/89
 Gauge # 43002
 Run by : BURRELL



BENNETT-CATHEY

BOTTOM HOLE
DRAWDOWN / BUILD UP
REPORT

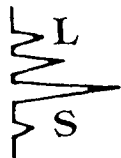
FOR:
PRESIDIO
7/ 3/89

WELL INFORMATION :

LEASE :SUPERIOR FED.	WELL # 5	FIELD :
LOCATION :	FILE # PRE4PT	
COUNTY :EDDY	STATE :NM	
ELEVATION : 0.00	ZERO POINT :GL	
TUBING SIZE :2 3/8	DEPTH :10219.0	
CASING SIZE :5.5	DEPTH :11250.0	
PACKER TYPE :BAKER	@ 10219.00 feet	
PERFORATED 10306.0 to 10310.0 feet	TOTAL DEPTH :11250.0	

TEST INFORMATION :

WELL CONDITION :DD	WELL TYPE :GAS
SURFACE TUBING PRESSURE 1400 psig by GAUGE	
SURFACE CASING PRESSURE 0 psig by GAUGE	
BOTTOM HOLE TEMPERATURE 180 deg. F. at 10308.0 feet	
BOTTOM HOLE PRESSURE 1689.2 psig at 10308.0 feet	
INSTRUMENT TYPE : RPG-3	NUMBER : 43002 RUN BY : BURRELL



LABORATORY SERVICES

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Bennett & Cathey
Attention: Monty Randolph
P. O. Box 787
Artesia, New Mexico 88210

SAMPLE
IDENTIFICATION: Superior Fed. #5
COMPANY: Presidio
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 6/30/89 12:43 PM GAS (X) LIQUID ()
ANALYSIS DATE: 7/01/89 SAMPLED BY: Keith Norvell
PRESSURE — PSIG 500 ANALYSIS BY: Rolland Perry
TEMPERATURE — °F: 97
Atmos. Temp. 95

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM	LIQ. VOL. PERCENT
Hydrogen Sulfide (H2S)	-0-		
Nitrogen (N2)	1.49		
Carbon Dioxide (CO2)	0.31		
Methane (C1)	76.16		
Ethane (C2)	13.51	3.446	
Propane (C3)	5.35	1.474	
I-Butane (IC4)	0.66	0.216	
N-Butane (NC4)	1.49	0.470	
I-Pentane (IC5)	0.34	0.125	
N-Pentane (NC5)	0.36	0.131	
Hexane (C6)	0.19	0.088	
Heptanes Plus (C7 +)	0.14	0.078	
	<u>100.00</u>	<u>6.028</u>	

BTU/CU. FT.—DRY 1262
AT 14.650 WET 1237

SPECIFIC GRAVITY—CALCULATED 0.733
MEASURED

VAPOR PRESSURE (ABSOLUTE)—CALCULATED

26# GASOLINE— 0.587

CU. FT./GAL. —

DEPTH ft	dDEPTH ft	PRESSURE psig	dPRESSURE psig	GRADIENT psig/ft
0		1408.8		
3000	3000	1569.9	161.1	.054
6000	3000	1729.7	159.8	.053
9000	3000	1888.5	158.8	.053
10308	1308	1952.7	64.2	.049
EXTRAPOLATION TO MIDPOINT OF PERFORATIONS ;				
10308		1952.7		.049

BENNETT-CATHEY

BOTTOM HOLE
PRESSURE / GRADIENT
REPORT

FOR:
PRESIDIO
7/ 3/89

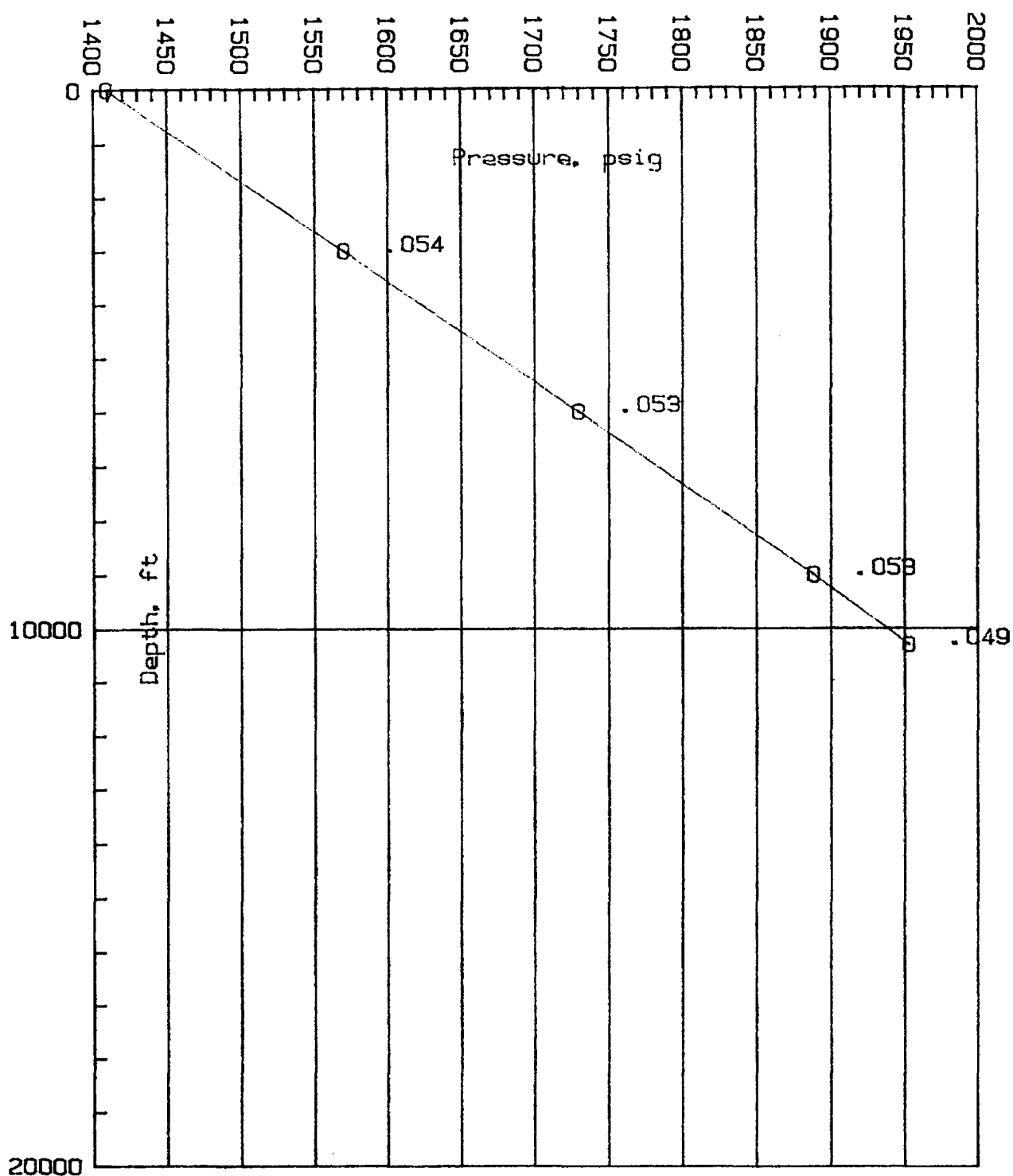
WELL INFORMATION :

LEASE :SUPERIOR FED.	WELL # 5	FIELD :
LOCATION :	FILE # PRE1S	
COUNTY :EDDY	STATE :NM	
ELEVATION : 0.00	ZERO POINT :GL	
TUBING SIZE :2 3/8	DEPTH :10219.0	
CASING SIZE :5.5	DEPTH :11250.0	
PACKER TYPE :BAKER	@ 10219.00 feet	
PERFORATED 10306.0 to 10310.0 feet	TOTAL DEPTH :11250.0	

TEST INFORMATION :

WELL CONDITION :SI	WELL TYPE :GAS
SURFACE TUBING PRESSURE 1407 psig by DWT	
SURFACE CASING PRESSURE 0 psig by GAUGE	
BOTTOM HOLE TEMPERATURE 180 deg. F. at 10308.0 feet	
BOTTOM HOLE PRESSURE 1952.7 psig at 10308.0 feet	
INSTRUMENT TYPE : RP6-3	NUMBER : 43002 RUN BY : BURRELL

C&W WIRELINE dba BENNETT-CATHEY,P.O.BOX 787 ARTESIA,NM 88210



GRADIENT SURVEY

PRESIDIO

Field :

Well # 5

Lease : SUPERIOR FED.

County : EDDY

State : NM

Date of Run : 7/ 3/89

Gauge # 43002

Run by : BURRELL

REAL TIME	ELAPSED TIME	HORNER coef	PRESSURE psig	dPRESSURE psig
WELL SHUT IN				
12:30:00	000:00:00	99999.90	1888.5	0.0
WELL FLOWING				
12:45:00	000:00:00	0.00	1861.5	0.0
13:00:00	000:15:00	0.00	1851.4	-10.1
13:15:00	000:30:00	0.00	1847.6	-13.9
13:30:00	000:45:00	0.00	1847.0	-14.5
13:45:00	001:00:00	0.00	1812.2	-49.3
14:00:00	001:15:00	0.00	1803.7	-57.8
14:15:00	001:30:00	0.00	1800.0	-61.5
14:30:00	001:45:00	0.00	1802.4	-59.1
14:45:00	002:00:00	0.00	1768.6	-92.9
15:00:00	002:15:00	0.00	1771.6	-89.9
15:15:00	002:30:00	0.00	1765.5	-95.9
15:30:00	002:45:00	0.00	1766.9	-94.6
15:45:00	003:00:00	0.00	1709.5	-152.0
16:00:00	003:15:00	0.00	1688.2	-173.3
16:15:00	003:30:00	0.00	1689.2	-172.3
16:30:00	003:45:00	0.00	1651.7	-209.8
END OF TEST				